

## NAVIGATION IMPROVEMENTS BEFORE THE CIVIL WAR

Early internal improvements were hampered by two difficulties: the lack of capital and the absence of technical or engineering expertise and equipment. Americans were wealthy in ships and land, but as late as 1800 only three corporations in the United States had a capital of a million dollars--the Bank of the United States, the Bank of North America, and the Bank of Pennsylvania. After the American Revolution and before the creation of the present federal system in 1789, private investors carried out internal improvements. The role of state governments was limited to the chartering of specific projects and, usually, to providing some degree of funding, either through the direct granting of sums of money or through the purchase of shares of stock. The scope of internal improvements work within the states varied greatly. Customs revenues and other fees, duties, or tolls were generally the source of state monies for internal improvements.

During this period, Americans debated the federal government's relation to the states. In this regard, the question of the role of a central government in fostering commerce arose early, as did the question of its role in developing the western lands. In 1784 George Washington, writing to Richard Henry Lee, urged the necessity of surveying western waters (at this time, primarily the Ohio and Mississippi rivers). Washington's concern was partly defense, but he was also aware of the need for commercial routes to link west and east. Without such routes, Washington feared, the western settlers would direct their trade either down the Mississippi (to trade with the Spanish) or up it (to trade with the British in Canada).

At the Constitutional Convention, Benjamin Franklin became the principal advocate of federal sponsorship for internal improvements. He, too, urged the necessity of linking east and west in the newly founded republic. But Franklin lost the battle. The Constitution gave the new federal government the power to "provide for the common Defense and general Welfare of the United States"; but it limited explicit construction authority to military structures such as arsenals and fortifications, lighthouses, and--thanks in large measure to Elbridge Gerry of Massachusetts--post roads, post offices, dockyards, and "other needful buildings."

The Constitution basically reserved to the states the role of fostering internal improvements. Consequently, there was no appreciable difference in the way things were done in the 1790s from the way they were done in the 1780s. The new Constitution did have one significant negative effect upon state internal improvement programs. It deprived the states of an important source for their own funding of these improvements by reserving customs revenues to

the national government. By the end of the 1790s, state politicians and private investors exerted increased pressure for grants of federal aid to internal improvements. Many of the projects charted in the 1780s or early 1790s were foundering because of bad economic conditions. Federal assistance came to be viewed as a practical necessity.

In response, Congress in 1802 began the practice of appropriating money for specific internal improvement projects within the states. It authorized the Secretary of the Treasury, in that year, to pay a maximum of \$30,000 for the repair and erection of public piers in the Delaware River. In 1805 nearly \$6,000 more was appropriated for the project.

These appropriations scarcely opened a sluice gate of federal grants. President Thomas Jefferson and Congress retained doubts about the constitutionality of the appropriations. Nevertheless, political lobbying for aid increased, and Jefferson himself realized that some sort of national system for internal improvements was required. The states could not adequately provide the internal improvement necessary for American prosperity. In 1808, Jefferson's Secretary of the Treasury, Albert Gallatin, submitted his famous report recommending federal aid for a great system of roads and canals to link the Atlantic Ocean and the interior of the country. The following year, Congress appropriated the first sum strictly for water development--\$25,000 to lengthen the Carondelet Canal and to deepen the Mississippi channel at New Orleans. However, the project was justified as necessary for defense; no one spoke of commercial river and harbor improvements.

It was from the westernmost states and territories that Congress would hear most loudly the call for help with internal improvements, and the power of Congress to construct internal improvements in the territories was never seriously challenged. Typical of these appeals was an editorial in the Kentucky Gazette of Lexington on March 25, 1816: "The western waters are our canals and from the simplicity of their wanted improvements are entitled to the first application of moneys and subscriptions from the national treasury." The states formed from the interior were often conscious of a special responsibility to promote internal improvements. The Missouri state constitution (1820) stated that "Internal improvements shall forever be encouraged by the government of this state, and it shall be the duty of the General Assembly, as soon as may be, to make provision by law for ascertaining the most proper objects of improvements in relation both to roads and navigable rivers. . . ." Michigan and Arkansas expressed similar sentiments in their state constitutions. The state of Maryland recommended an amendment to the Constitution which would allow federal sponsorship of internal improvements and introduced, in 1823, a resolution calling for federal-state cooperation in developing internal improvements.

After a long period of inactivity, caused partly by the War of 1812, Congress once more authorized funding for water resources. In 1819 it appropriated \$6,500 for a survey of the tributaries of the Mississippi and Ohio rivers. The following year it extended the survey activities to include the lower Mississippi and appropriated \$9,500 more. In both cases, the funds were included in military appropriations bills.

Appropriations for the older sections of the country also increased. In 1821, Congress authorized a survey of the Maine-New Hampshire coast and appropriated \$2,500 to repair seawalls and build lighthouses. Another \$22,700 was appropriated the following year for similar projects elsewhere. In 1823, Congress authorized \$6,000 to remove obstacles in Gloucester Harbor and \$150 to survey the harbor entrance at Presque Isle, Pennsylvania. The total value for "river and harbor" projects from 1802 to 1823 was just over \$85,500. Most of these expenditures were clearly within the recognized purview of the federal government. The surveys in the territories, the lighthouse and seawall work, and the Carondelet Canal could all be justified as matters of national defense. A few projects did seem to stretch the limits of federal authority, but the first significant redefining of federal authority came in 1824.

In 1824, President James Monroe signed the General Survey Bill. It authorized him to have surveys made of routes for roads and canals "of national importance, in a commercial or military point of view, or necessary for the transportation of public mail." Within two months, Congress passed and the President signed the first true rivers and harbors bill. This act appropriated \$75,000 to improve navigation on the Ohio and Mississippi rivers by removing sandbars, snags, and other obstacles (as early as 1811 Congress had declared the Mississippi to be a "national public highway" and had forbidden states to levy tolls or duties upon its traffic). Military as well as commercial requirements justified the project. The War of 1812 had shown the importance of good interior lines of communication. The General Survey Act and the act to improve the Mississippi and Ohio rivers mark the beginning of continuous Corps of Engineers involvement in navigation improvement. Congress clearly intended that the involvement be ongoing; it ordered the engineers to report back their progress so that the need for further appropriations might be determined.

After 1824, federal programs on rivers and harbors increased, although states and private interests still carried the greater financial burden. Most of the federal focus was on the "public highways"--that is, the great rivers such as the Mississippi, Ohio, Missouri, and Arkansas--and on river and harbor work close to or on ocean ports. The period from 1824 to the Civil War is marked by a general inconsistency in national policy and a growing public debate over the federal role in internal improvements. The debate and

inconsistency must be set in the context of American expansion westward and increasing sectional and regional friction--and, after 1848, a rising national debt caused by the Mexican War. Commercial rivalries between river and canal interests on one hand and railroads on the other also fired the debate. By the 1850s, the issue of federal involvement in internal improvements was a partisan matter. In 1852, the Whig Party championed the cause of federal assistance by proclaiming Congress's power to improve and maintain all navigable rivers either for defense or for the protection of commerce. The Democrats maintained the positions set forth in their party platform of 1848, that Congress had no power to carry on a general system of internal improvements (one scholar notes wryly that the platform did not prevent Democratic congressmen from voting for appropriations). The Republican Party, by contrast, in 1856 declared that "appropriations by Congress for the improvement of rivers and harbors of a national character, required for the accommodation and security of our existing commerce, are authorized by the Constitution, and justified by the obligation of the government to protect the lives and property of its citizens." This national debate was sidetracked by the Civil War. Afterwards, the necessity of government involvement was uncontested.

In the 1820s and 1830s, the states and private investors also carried out a great deal of internal improvement work. The best known of these state projects is the Erie Canal, but there were other canal projects (some of them never completed) in New Jersey, Pennsylvania, Ohio, Illinois, Indiana, Michigan, and South Carolina. States also contributed to private canal projects by investing money in them--as did some of the larger cities, such as Baltimore and Philadelphia. In some instances, states took over a foundering canal enterprise (for example, the James River and Kanawha Canal Company in Virginia). In some states (for example, New York, Ohio, Pennsylvania, and Kentucky) internal improvements programs for canals or river work were substantial. To many of these programs, the federal government's assistance was limited mainly to the granting of financial aid or land, or to technical assistance. In a few cases there was state-federal cooperative development--as in the Dismal Swamp Canal project. The number of federal projects also grew, in part because of national expansion and in part because of growing political competition among congressmen for federal funds. During his term of office, President Andrew Jackson attempted to stem the rising tide of projects whose "general or national" character was dubious: he noted in 1834 that there were pending before Congress proposals which altogether must have exceeded in cost \$100 million. Equally important, however, for the rising cry for federal assistance was the Panic of 1837, which severely crippled the economies of many states and localities, as well as private investors. Still another factor, beginning in the 1840s, was the emergence of railroads.

Judicial interpretations significantly affected federal navigation policies. In 1824, the Supreme Court in Gibbons v. Ogden ruled that federal power over interstate commerce included riverine navigation "so far that navigation may be in any manner connected with commerce." The decision inevitably raised the question of the limits of state versus federal responsibilities for navigation. Common law furnished the original answer: only tidal streams were under federal jurisdiction. Andrew Jackson changed the policy by deciding that improvements below a port of entry would be made by the federal government and all others would be the responsibility of the states. Congress effectively subverted Jackson's policy when it began declaring inland ports to be "ports of entry" and appropriating money for their improvement. President Franklin Pierce resisted the practice in the mid-1850s, but he was the last President to do so.

In short, federal jurisdiction over rivers expanded. In the period from 1840 to 1870, Congress effectively extended federal jurisdiction over the inland waters. In a famous 1870 decision (Pennsylvania v. Wheeling Bridge Co.), the Supreme Court declared that

Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition as highways of commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water. And they constitute navigable waters of the United States within the meaning of the acts of Congress, in contradistinction from the navigable waters of the States, when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other States or foreign Countries. . . .

In this decision the Supreme Court merely confirmed what Congress and private interests had long taken for granted: the right to regulate navigable waters includes the right to improve them.

Although federal jurisdiction was expanding, the states and other entities were still responsible for a great deal of the construction during the period before the Civil War, and they were often assisted by federal grants. The grants were generally land grants, or funds of money derived from the sale of public land. In 1819 Congress set aside 5 percent of the monies received from sale of public lands in Alabama to be returned to the state as a fund for internal improvements. It continued the practice (though generally

at 2 or 3 percent for other new states entering the union). In 1827 Congress initiated the practice of granting rights-of-way through public lands for state canal projects, granting such lands to Illinois and Indiana. In 1828 Congress granted 400,000 acres of public lands to Alabama to finance improvement of the Tennessee River at Muscle Shoals and Colbert's Shoals.

By the 1840s Congress had given substantial acreage to the states--over a million acres, for example, to Ohio and Indiana alone. In 1841, Congress enacted the 500,000-acre land grants for public improvements. Under this act, eight specific states and every public-land state thereafter admitted to the Union were to receive a grant of 500,000 acres of public lands to use for specified improvements. By the time the program was terminated in 1889, 15 states had each received the full 500,000 acres, and two more, Illinois and Alabama, had received 209,086 and 97,469 acres, respectively. The uses of this land were various--some states used it to finance public education, others for railroad construction or irrigation; some applied a portion to river improvements, canals, or roads; one state, Minnesota, liquidated state bonds previously loaned to railroads.

In 1849 and 1850, Congress authorized another series of land grants to aid states with internal improvements. The 1849 Swamp Lands Act granted to Louisiana all swamp and overflowed lands owned by the federal government within that state. The purpose of the act was to assist the state in the construction of levees and other flood protection measures and in the drainage and reclamation of the lands. In 1850, Congress extended the act to cover other states, and another extension in 1860 included Minnesota and Oregon in the act. Eventually 15 states received a total of 64,853,922 acres of land--or 101,334 square miles, an area slightly smaller than the state of Colorado.

Another form of federal assistance to state, local, or private internal improvements projects was the purchase of stock in canal companies. The first such investment came in 1825, when Congress authorized the purchase of 1,500 shares in the Chesapeake and Delaware Canal Company. This investment was followed by four others; the total investment was \$1.88 million. (In addition, the federal government eventually assumed some of the costs of constructing and operating at least one of these canals, the Great Dismal Swamp Canal.)

Gradually, as the role of states in internal improvements projects declined, the role of the federal government increased. According to the Hoover Commission Task Force on Water Resources and Power (1954), the role of states or their political subdivisions in navigation improvement projects has been, since 1850, "comparatively rare." The history of federal participation in water resources developments in the 19th century is one of increasing activity, in

terms of both kind and degree, in navigation improvement--and of increasing calls from the states and private interests for ever more assistance.

Just how large was the federal contribution to the development of internal improvements and, more specifically, to river, harbor, and canal improvements? Altogether, by 1860 Congress had appropriated about \$14.5 million for river and harbor improvements, and another \$2.5 million for canals. These amounts include the subscriptions to canal companies and the monies from the 2 and 3 percent funds. Of that \$14.5 million spent for rivers and harbors projects, roughly \$5 million had been spent on the Atlantic coast, \$1 million on the Gulf coast, \$3 million on the Great Lakes, and \$3 million on the great inland rivers--the Mississippi, Ohio, Missouri, and Arkansas. A small amount (about \$30,000) had been spent on the Pacific coast. Approximately \$1 million of appropriated funds had not been spent.

The value of the land grants is more difficult to calculate, since state records are not complete and since the lands were used, in some cases, for various (or multiple?) purposes. Certainly the federal government gave the states a substantial amount of acreage. Federal land grants for canals, according to figures compiled by the Department of Commerce, totaled 4,597,668 acres. Grants for river improvement projects amounted to 1,742,671 acres. The Swamp Land Act grants came to 64,853,922 acres, of which 51,252,945 acres seem to have been used at least partly for purposes of reclamation or flood control (13,600,977 acres of these lands were donated by the states to railroads). Of the 7,806,555 acres eventually granted under the 500,000-acre land grants described above, it can be safely assumed that a considerable part of the grant was used for river, harbor, and canal work.

These grants and appropriations were not insignificant; but they represent a modest amount of aid compared to the assistance which came after the Civil War. By the 1850s, indeed, river interests in the interior were agitating for far more aid than they were receiving. St. Louis rivermen calculated that river obstacles such as snags and sandbars resulted in the loss of boats and cargo in the amount of \$3,631,000 just for the years 1822-1841. This is more than the total federal appropriations, from 1824 to 1860, for the four great inland rivers. By the mid-1840s, the first of the river conventions had met at Memphis to organize lobbying efforts for more federal aid. It would be followed by many others. The Civil War brought almost all internal improvements projects to a halt. It also destroyed the commerce on the Mississippi River. When work resumed after the war, it would be on a scale far greater than before.

How large a share of the total burden for waterway development did the federal government actually bear during the pre-Civil War

period? Unfortunately, figures are simply not complete. Estimates, however, which vary, suggest that states and private interests spent well over \$185 million for canals by 1860. While it is true that the federal government assumed increasing responsibility for navigation improvements in this period, the federal work was concentrated mainly on ports and larger rivers. States, localities, and private interests continued to bear responsibility for improvements on minor rivers and all costs for flood control or the construction of terminals, wharves, and docks at ports. Nor was the federal government involved, except indirectly through land grants, in reclamation or drainage efforts. Although federal appropriations increased during this period, they never did so on a scale matching the work to be done--federal aid, moreover, was inconsistent: periods of (relative) generosity alternated with periods of stinginess. No appropriation, for example, was made for the lake ports after 1852; they were left, as the Chief of Engineers described them after the Civil War, "abandoned, and the works left to subserve the purposes intended as long as the timber and other material used in their construction might resist decay and the heavy storm waves for the lake." What seems most important in this period, however, is not the amount of federal assistance, but the practices which were being established.